

REMARKS

Claim Rejections

Claims 1 and 9 are rejected under U.S.C. §112, second paragraph. Claims 1-19 are rejected under U.S.C. §103 (a) as being unpatentable over AAPA in combination with Park et al. (6935,915) further in combination with Windischmann et, al, (2003/0034721).

Drawings

It is noted that the Examiner has accepted the drawings as originally filed with this application.

Claim Amendments

By this Amendment, Applicant has canceled claims 1-9 and 18-19 thereby rendering moot the Examiner's rejections under 35 U.S.C. §112, second paragraph. Applicant has also amended claims 10 and 17 of this application. It is believed that the amended claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

With respect to the claim rejections under U.S.C. §103, Applicant respectfully traverses the rejections basis on the following reasons:

(1) Park et al. combined with AAPA (screen printing) fails to teach the method provided by the present Application. The method taught by Park et al. includes forming a cathode line (2) and gate structure (4,3), and forming conductive columns 15 on the cathode line 2 and at the center of gate holes 3a. A template with CNT adhered to its bottom is then used to attach the tops of the conductive columns 15. In column 3, 2nd paragraph Park teaches that the conductive columns 15 may be formed by (a) a screen printing method using squeezing of silver paste, (b) a lift-off method using a sacrificial layer, or a photolithography method involving exposing the backside of a substrate to light.

(2) Accordingly, Park et al. teaches using the screen printing method to form the conductive columns 15. The results are shown in FIG. 3B of Park et al.

(3) After CNT paste is adhered on the tops of the conductive columns 15, the conductive columns 15 still need to be shrunk by firing at 450°C to 550°C so as to reduce the conductive column height in accordance with Park et al.

(4) The final height of conductive columns may vary based on the initial height of the conductive columns, firing time and the temperature according to Park et al. In contrast, according to the present Application, the imprint of a negative mold having a fixed height to carry the CNT is used.

(5) A risk of a gate to cathode short still exists in Park et al. due to the conductive columns collapsing during screen printing and firing. In contrast, no such problem present in the present Application since the height of CNT paste is already low after adhering to the cathode, and during the imprinting process, the imprint negative mold includes a second pattern for housing the gate lines so that the gate to cathode short will never occur.

Applicant believes that Windischmann et al. do not supply the above deficiencies of Park et al. and AAPA. For example, Windischmann et al. do not teach or suggest injecting a second mold material in a *liquid* state or a negative mold having a **second pattern**. Furthermore, even if the Examiner is able to show Windischmann et al. do supply the above deficiencies of Park et al. and AAPA, Applicant submits that the Examiner has not provided a motivation sufficient to motivate the skilled artisan to pick and choose elements from the cited references. For instance, the Examiner has not shown that the screen printing method of Park et al. (teaching CNT's) could be effectively substituted with the molding method of Windischmann et al., which fails to teach anything about CNT's. Nor has the Examiner shown that the skilled artisan would consider the methods to be interchangeable without rendering inoperable the method of Park et al.

As a result, even if the teachings of Park et al., AAPA, and Windischmann et al. were combined, as suggested by the Examiner, the resultant combination does not suggest: a method of forming CNT emitting sources, said method comprising the steps of: providing a substrate; forming a plurality of cathode lines on said substrate; forming a dielectric layer on said substrate and overlaying said cathode lines; forming a plurality of gate lines on said dielectric layer, said cathodes lines being perpendicular to said gate lines so as to define said pixels; and

patterning said dielectric layer over said pixels so as to form openings which expose said cathode lines; providing an imprint negative mold having a first pattern for imprinting emitting sources; utilizing said imprint negative mold dipped with CNT paste; using said imprint negative mold imprinting said CNT paste on said cathode lines through said openings; and curing said CNT paste to form said CNT emitting sources.

Nor does the combination suggest: the above method wherein said imprint negative mold is formed comprising the steps of: providing a first mold material; patterning said first mold material to form an imprint positive mold which comprises patterns for said gate lines and said emitting sources; injecting a second mold material in liquid state into a mold which encloses said imprint positive mold; solidifying said second mold material; and drawing said imprint positive mold from said mold so that said imprint negative mold is formed.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over 40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

The examiner and the board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In In re Geiger, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

Applicant submits that there is not the slightest suggestion in either Park et al., AAPA, or Windischmann et al. that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

Neither Park et al., AAPA, nor Windischmann et al. disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby

Application No. 10/706,907

respectfully submits that no combination of the cited prior art renders obvious Applicant's amended claims.

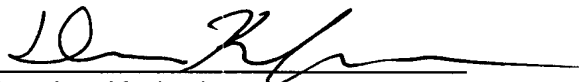
Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

Date: June 13, 2007

By:


Demian K. Jackson
Reg. No. 57,551

TROXELL LAW OFFICE PLLC
5205 Leesburg Pike, Suite 1404
Falls Church, Virginia 22041
Telephone: 703 575-2711
Telefax: 703 575-2707

CUSTOMER NUMBER: 40144